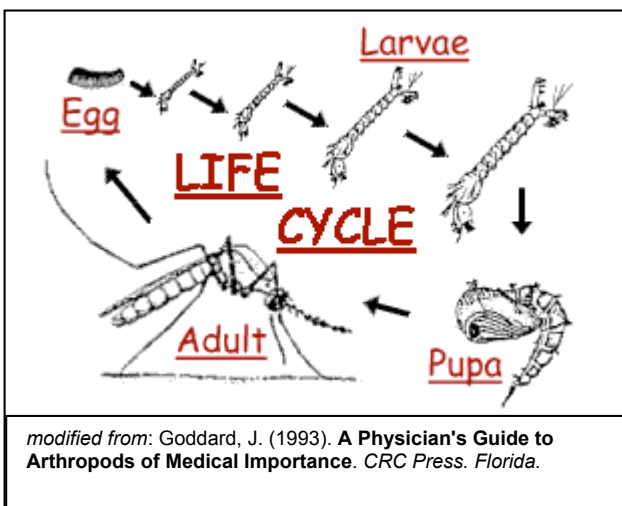
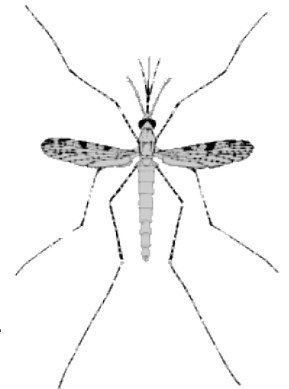


FACT SHEET

MOSQUITOES

Natural History

Mosquitoes are blood-sucking insects that are responsible for the transmission of many diseases throughout the human and animal populations of the world. Within Australia there are more than 300 different species of mosquito but only a small number are of major concern. Several important human diseases are transmitted throughout Australia by these insects including Dengue fever, Australian encephalitis, Ross River virus disease and Barmah Forest virus disease; malaria has been transmitted locally in Australia only rarely in recent decades. In addition to being disease vectors, mosquitoes can cause major disruptions, through their persistent biting, to occupational, recreational and social activities.



Mosquitoes belong to the family of flies called Culicidae and are small fragile insects that have six delicate legs and two wings covered in scales. The head of a mosquito is equipped with a projecting proboscis which conceals and protects the long piercing and sucking mouthparts. These biting insects have a complex life cycle; the immature stage is totally aquatic and the adult is terrestrial. The adult female returns to a water habitat for a brief period to lay each batch of eggs. Mosquito species vary in their breeding habits, biting behaviour, host preferences and flight range. Most mosquitoes disperse less than two kilometres; some move only a few metres away from their original breeding place, others can fly some 5 or 10 kilometres, and a few species will disperse up to 50 kilometres downwind from the larval habitats.



On average, a female mosquito will live 2-3 weeks, but the male's lifespan is shorter. Within their lifetime both adult male and female will feed on nectar and plant fluids, but it is only the female that will seek a blood meal. The majority of species require this blood meal as a protein source for egg development. Female mosquitoes are attracted to a potential host through a combination of different stimuli that emanate from the host. The stimuli can include carbon dioxide, body odours, air movement or heat. Upon locating a suitable host, the female will probe the skin for a blood capillary then inject a small amount of saliva containing chemicals which prevent the host's blood from clotting. This is often the pathway for potential pathogens such as viruses to enter a host. After engorging on the host's blood the female will find a resting place to digest her meal and develop eggs before flying off to deposit them in a suitable aquatic habitat.

On hatching, the young larvae (wigglers) feed continuously and grow through four different instars or moults. Larval development is dependent on the availability of food and prevailing conditions, particularly temperature, but generally takes at least one to two weeks. The final larval instar develops into an active comma-shaped pupa (tumbler) from which the adult mosquito emerges about 2 days later to feed, mate and develop eggs for the next generation.

Mosquito-borne diseases in Australia

Diseases transmitted by mosquitoes in Australia include Dengue fever, Australian encephalitis, Ross River (RR) virus disease and Barmah Forest (BF) virus disease. Dengue is the most important viral disease transmitted by mosquitoes afflicting humans in a world context. Clinical symptoms range from mild fevers, to a severe and potentially life threatening haemorrhagic disease. In Australia, Dengue fever is restricted to Queensland. Ross River and Barmah Forest disease have been collectively known as "Epidemic Polyarthritis", however the two diseases have a slightly different clinical picture. A wide variety of symptoms may occur from rashes with fevers, to arthritis that can last from months to years with RR virus infection. RR disease is the most commonly reported mosquito transmitted disease to humans (over 6,500 cases in 1997) and occurs in all states of Australia. There are occasional local epidemics with hundreds to thousands of infections, with many going unreported. BF disease occurs in most states of Australia, although the annual number of cases are around 1/10th that of RR disease. A series of outbreaks during the early 1990's has highlighted the increasing importance of BF disease. Malaria in Australia has been endemic, but was declared eradicated from the country in 1981. However, approximately 700-800 cases are imported annually from travellers infected elsewhere.

Clinical Presentation

Sensitivity to mosquito bites varies with individuals, most people have only a mild reaction but others can have severe symptoms from the saliva of mosquitoes. Typical symptoms include swelling, redness and irritation at the puncture site. If the bites are scratched or traumatized, they may become infected with bacteria and a secondary infection can be initiated, especially on the lower limbs. The diagnosis of mosquito-borne diseases including Dengue, Australian encephalitis and Ross River and Barmah Forest viruses can only be confirmed with appropriate blood tests.

What to Do

An amazing product has been released to combat mosquitoes. Effective treatment requires application to shrubs, hedges, flower beds, surfaces surrounding entertainment areas, tall grasses and shaded, humid areas where mosquitoes congregate. This is a water-based formulation that provides residual control and is safe to apply to ornamental plants. Goode Pest Control has had excellent results for clients with this product leaving them free to enjoy the exterior of their homes again.

*Protect yourself and your family and enjoy our great Australian lifestyle. Goode Pest Control can give you protection from these irritating and sometimes dangerous insects. Call us now for your solution.
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